

# **USE OF INFORMATION TECHNOLOGY IN THE POSTAL SERVICE**

## **INTRODUCTION**

The Postal Service's Information Technology (IT) organization strategically applies technology to provide solutions that address the rapidly evolving marketplace and the changing needs of its customers. Today, this group manages over 650 different technological applications that run the world's largest postal administration and the second largest workforce in the United States.

As customers increasingly look for alternatives to the retail offices, online means of completing transactions are vital for customer satisfaction and business growth. The capability and reliability of the technology infrastructure that supports the processing of mail, internal operations, and these electronic service offerings are, therefore, critical to the success of the organization.

The Postal Service has taken a conservative approach to investing in technology, adhering to a policy of investing in initiatives only when a clear return on investment could be determined.

In the last few years the Postal Service has invested in projects that generate a return on investment. Investments in infrastructure upgrades, customer service and internal operations have been prudent but will require future investments in order to run the Postal Service of tomorrow. These projects are being implemented to ensure that the Postal Service will offer services in line with customer demands and market developments.

The Postal Service's 2002 Transformation Plan established the direction and initiatives needed, along with the technology initiatives required, to support its internal business needs and customer requirements. In FY 2002 the Postal Service expended approximately \$700 million for IT and anticipates spending about \$1 billion in FY 2003.

## **BACKGROUND**

In the past decade, the Postal Service has been focused on reengineering and automating mail processing operations. During this same period of time, however, the Postal Service has been leveraging technology to automate and simplify the support functions to increase efficiency and decrease expenses. Information technology has been used effectively to streamline work processes throughout the organization —reducing the workload as well as the number of workhours needed.

Our IT Group has worked diligently with the nation's top technology providers to ensure the Postal Service is utilizing the best available technology for its programs, services and operations —both internally for our employees and externally for our customers. Due to the size and scope of the organization, scaling commercially available software is frequently impossible.

When technology applications are needed and there are no commercially available solutions, the required applications are created in-house by IT employees. Three have been recognized as world-class applications: eBuy, eFleet, and eTravel. These programs eliminate paper, streamline processing requisitions and invoices, and decrease fraud and misuse.

The Postal Service is a recognized leader in complying with Section 508 of the Americans with Disabilities Act —providing electronic services for those with visual disabilities. We are proud of this leadership position and use it to share knowledge with other federal agencies as well as leveraging our position to encourage software suppliers to make their tools 508 compliant.

In 2002, the Postal Service IT Investment process was audited, along with four other federal agencies, by the Government Accounting Office. GAO ranked us the highest in managing IT Investments, having processes and tools in place that assist management in making sound investment decisions based on standardized, repeatable and efficient processes.

We are a leader in supporting the Government Paperwork Elimination Act. All of the electronic applications we have built for our intranet users —our employees— take paper out of the process. The applications that are now automated include: eTRAVEL, processes travel vouchers electronically; eAWARDS, processes employee awards online; eBUY, automated purchasing; eIDEAS, automated ideas program; eMAP, automates the medical information for any newly hired employees; TACSADJUSTPAY, automates the payroll adjustment process; eFLEET, automates the validation of the fleet credit card usage; eACCESS, automates providing computer users with access to applications and data; ePASSWORDRESET, allows users to reset their computer passwords without paper or a help desk agent; eBUSINESSCASE, allows a user to create a business investment document for presentation to finance for budget approval; ePCTS, automated time reporting system for our contractors; and ePTRS, automated Project Tracking and Reporting System.

Finally, the Postal Service offers electronic solutions that remove paper from the system for our customers, as well. Two such solutions include eBillPay, which allows customers to receive and pay their bills online and MoversGuide, which allows customers to change their address online, eliminating the need to fill out an address change form and submit it to their local post office.

### **ENHANCED SERVICES FOR CUSTOMERS AND MAILERS**

Customers have become increasingly concerned with both safety in the mail and the timely delivery of their mail, and as a result, they have begun requesting services that allow them to track their mail at all times. Finding ways to provide such a service is a major initiative within the organization. The organization's current mail tracking services provides customers with information regarding when their mail is accepted and when it is delivered, but nothing in between. We are now focused on making the entire mail operation process visible —through an initiative called “intelligent mail.”

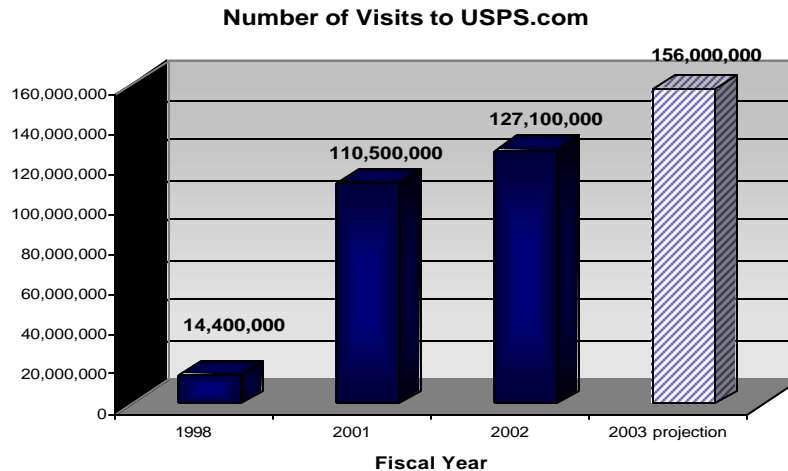
In January 2003, the Postal Service acknowledged the value of “intelligent mail” with the creation of a new organization. The Intelligent Mail and Address Quality group was established to create and manage the programs to provide information to customers about their mail from acceptance to delivery.

Today the Postal Service has systems in place that collect, confirm and report tracking and tracing information to our customers. When a customer chooses to track a package it is specially coded and placed into the mail processing system. Customers can then receive confirmation of delivery via FAX, call center, Internet or mail.

The “intelligent mail” program will take this process several steps further by offering real-time tracking information to customers. The Postal Service is now laying the groundwork for a new standardized one-code system that will be developed. Customers will have an option of having a standardized code applied to each mail piece; this code will be used to identify and track the piece throughout the processing and delivery operation. The first “intelligent mail” program —CONFIRM— is already available to mailers today via a subscription service. The Postal Service will be developing a more robust system that allows mailers to track their mail as it passes through our automation system from entry to final destination. Customers will have the option of getting real-time information about their mail via the postal website.

Diverting traffic from post offices by providing customers with alternative ways to conduct their postal business is an objective that is being actively pursued. Today, customers can purchase stamps at their local post office, via telephone, U.S. Mail, ATM, non-postal retail outlets (grocery stores, drug stores, card stores, etc.) and the Postal Service's web site, [www.usps.com](http://www.usps.com). On the postal web site, customers can create mailing labels with or without electronic postage with Click-N-Ship; create documents, newsletters, greeting cards and postcards with a suite of NetPost Services; pay their bills with eBillPay; look up ZIP Codes; find their local post office and the closest retail location to purchase stamps; change their address; hold their mail and request that a missed package be redelivered on a specific date and time.

Since 1998, the Postal Service has seen a nine-fold increase in the number of visitors to its website, as illustrated in Chart 1. During fiscal year 2003, the organization expects approximately 156 million customers to visit the site and conduct a similar number of transactions.



**Chart 1**

The Postal Service is also leveraging an existing system —the Point of Service (POS) system, utilizing the retail data collected to analyze customer needs at the respective Postal retail office locations. This analysis will be used to determine which products/services are the most popular and those that could conceivably be accessed in an alternative manner. Continuing to develop these and other services not only provide customers with greater flexibility in doing business with the Postal Service, they also provide the organization with considerable cost savings as transactions are moved to alternative locations.

#### **STREAMLINING MAIL DELIVERY**

The Postal Service is currently in the planning stages of developing and implementing several new systems that will further improve an already efficient mail processing system. The initiatives focus on improving mail sorting, bundling, address-forwarding, delivery, and transportation functions within the mail processing operation.

To improve mail sorting, the organization will be deploying a mechanism that measures and weighs packages, scans the barcodes, and sorts them accordingly. Other efforts are geared toward further automating the sorting and bundling of mail so that the end result is one bundle of letters and flats for each delivery point or address as opposed to several. This will increase productivity by reducing the time carriers spend preparing to deliver mail and thereby increasing the proportion of each day that is spent delivering mail.

A new system is being developed to manage the forwarding of undeliverable-as-addressed (UAA) mail. Today, approximately 1.25 billion pieces of UAA mail are handled by the Postal Service. The system will catch this mail earlier in the process and reduce the number of handlings that it must go through. To support the delivery functions, a system is currently being deployed to supply delivery supervisors with the information they need in order to make informed and efficient decisions about delivery options.

The Postal Service is also focusing its attention on improving systems related to transportation. Information collected from these systems will allow managers to measure the performance of each plane and carrier as well as the performance of origin and destination terminals. Information collected from these systems will be used to optimize network design, improve transportation efficiencies, and enhance services. For example, certain systems will handle mail assignment to air carriers, while others will focus on ensuring service performance accountability and billing/payment accuracy. The organization is also moving toward a more dynamic and industry-standard route optimization engine for all transportation needs.

The data collected from the various distribution systems is taken by IT and placed in a data warehouse and presented as information to managers for decision-making purposes.

### **REDUCING INTERNAL COSTS WHILE IMPROVING EFFICIENCY**

As in other major organizations, the Postal Service has an enormous administrative work load. The organization has begun to realize significant cost savings by standardizing, simplifying, and automating administrative processes while transforming them into paperless self-service applications.

With more than 750,000 employees, the human resource function has been inundated and overwhelmed with employee inquiries and requests for assistance. In response, we've created a variety of automated processes and self-service systems that allows employees to telephone to an interactive voice response system or visit an intranet site to conduct their business. All of these transactions occur electronically, without the use of paper forms. Processes such as training of staff members, job bidding, award nomination, idea suggestion, travel, fleet card management, and purchasing have already been moved to such self-service applications.

The organization plans to move virtually all human resource functions to self-service applications. Specifically, functions related to job assignment and revision of employee benefits will move to a self-service model. In doing so, the Postal Service can reduce the support complement and capture significant cost savings.

In the future, the Postal Service will look at other aspects of the business to determine additional areas in which online, automated self-service applications would result in better quality at reduced costs.

### **PROVIDING UNIVERSAL COMPUTING CONNECTIVITY SERVICES**

The Postal Service's computing network is playing an increasingly important role in every business area of the organization. The network structure as it exists today supports more than 28,000 locations across the country. While the system has been highly reliable and has served the organization well, many of the enhanced services being offered to customers require an upgrade of the network. The first phase of this upgrade—which is currently being implemented, is scheduled to be completed in the 510 largest sites within the next 120 days—includes the consolidation of all mail processing computer networks into one. The remaining 12,000 sites will take approximately two years to complete and will begin in calendar year 2004.

The Postal Service has begun integrating wireless technologies—Blackberry devices specifically—into its day-to-day operations. Wireless service—which is currently being launched to support e-mail, calendar features, pager capabilities, task management, address information, Internet/Intranet access, and cell phone service in one device—will enable the organization to offer continuity in critical operations for contingency purposes. In the event of a disruption, the wireless system will remain functional since it operates either inside or outside the Postal Service's standard infrastructure. Employees currently receive real-time information and alerts via these wireless devices which allows for more timely and consistent management of postal operations on a daily basis. There are currently 780 managers who are using wireless devices. By the end of this year, the top 2,000 managers in the organization will be using these devices to assist them in managing their respective functions.

### **STRENGTHENING THE TECHNOLOGY INFRASTRUCTURE**

In order to support current and future business needs, the Postal Service must optimize its information technology resources. The organization will be reengineering its infrastructure and systems to take advantage of new technology and better business practices. One of the key initiatives supporting the distribution of innovative technologies within the organization is the Advanced Computing Environment (ACE) initiative. ACE involves replacing the entire distributed computing infrastructure, upgrading existing hardware, software, processes, and support while enhancing the stability, reliability, and availability of the existing infrastructure at 30% less costs. ACE will save the Postal Service over \$200 million in reduced IT costs over five years.

Efforts are well underway to standardize and update the mainframe and mid-range computing infrastructures. The mainframe computing environment is where the majority of the Postal Service's business computer processing occurs. Therefore, all related hardware, operating systems and application software, disk storage, and data warehouse elements are up-to-date. The mid-range

computing infrastructure is the newest computing environment in the Postal Service, with approximately 20% of the workload operating in this environment at this time.

To efficiently support both networks and applications, the Postal Service has implemented a shared services model for technical and corporate functions across the organization. The development of technical shared services involved building on infrastructure improvements to improve technology offerings such as data warehouse services, disaster recovery services, customer support, application hosting, hardware/software deployment and support. The development of corporate shared services involved focusing on those initiatives that utilized the upgraded infrastructure to improve back-office functions such as human resources and finance activities. The organization has been focusing on providing self-service functionality as much as possible to provide employees with better access to information, more convenient processes, and reduced support costs.

### **SECURING INFORMATION RESOURCES**

To best leverage the Postal Service's improvements in customer service and infrastructure upgrades, the organization must ensure that appropriate levels of security are maintained. The organization will continue enhancing its systems security to ensure that disruptions can be minimized if not altogether avoided and sensitive information can be protected from unauthorized disclosure or modification.

The effective communication of policies and procedures is critical to implementing a successful information security strategy. Education and training initiatives will continue to make employees aware of the information security measures currently in place and those that will be newly developed and implemented in the future.

The certification of computer applications is vital to establishing appropriate levels of security within the Postal Service. The applications used to run the organization's business are evaluated to determine whether they are certified, secure, and able to prevent vulnerabilities from being introduced into the system. The Postal Service will continue to use the Information Security Assessment process, which provides business owners with a methodology, to classify information resources and identify their security requirements to accomplish this work.

Contingency planning and disaster recovery has enabled the organization to sustain mission-critical information resources in accordance with the Critical Infrastructure Protection Act. The prevention of system intrusion is critical to maintaining the security of Postal Service information resources. Enhanced intrusion detection software, increased network vulnerability tests, and more sophisticated network scans have been implemented to detect vulnerable areas.

For these security measures to be effective, staff compliance with policies and procedures will continue to be monitored and maintained. The Postal Service monitors e-mail and Internet use, copyrighted software use, network traffic, application access, intrusions and other common security threats.

### **OPTIMIZING SUPPLIER RELATIONSHIPS**

The Postal Service has one of the largest and most complex IT infrastructures in the world. The software that is built or purchased must be scaleable to accommodate the size and scope of the organization. Information technology components put into place rely on hardware and software developed by vendors being integrated seamlessly into the organization's existing infrastructure. Because the introduction of one faulty piece of software or one malfunctioning server could negatively impact operations across the board, we must be certain the vendors we do business with offer products and services that are of the highest quality.

The Postal Service has been working with leading IT vendors for many years. Historically, the organization has interacted with these vendors in a typical customer-vendor fashion. In recent years, however, the organization has been moving toward establishing relationships with information technology vendors that follow more of a "partnership" model. In these arrangements, the Postal Service works with vendors who are not only able to sell the organization a product or service, but who take the time and

make the investment to learn about our business and offer technology that can support an organization of our size.

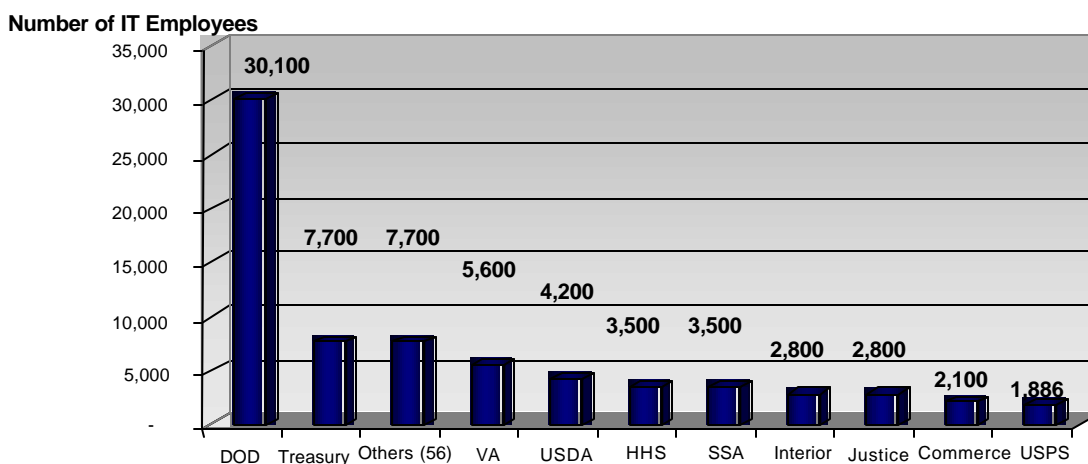
Strategic partnerships with vendors are allowing the Postal Service to form long-lasting relationships with the companies that provide critical components of the information technology infrastructure. The organization will continue fostering such relationships and will continue to seek out such arrangements with leading information technology suppliers.

### **MAINTAINING THE RESOURCE POOL OF TECHNICAL EMPLOYEES**

The Information Technology organization has a relatively small work force that is highly skilled, talented, and motivated. The IT group created the world's largest intranet and today maintains this infrastructure while employing the smallest number of information technology staff members of any federal agency. (illustrated in Chart 2)

**Chart 2**

### **Federal Agency Comparison**



Within the next five years, the organization will likely face a staffing challenge brought on by the retirement of civil service personnel. As employees exit the organization in a relatively short period of time, the Postal Service will be faced with hiring hundreds of qualified personnel to fill staff vacancies in that same time period. Recruiting and retaining new information technology employees will be especially difficult due to the compensation disparity between government and private sector in the information technology sector.

### **SUMMARY**

Maintaining a strong, well-trained workforce is a prerequisite if the organization is to meet its established strategic goals. The Information Technology organization will provide the leadership and guidance for obtaining/developing solutions to increase the efficiency of internal operations—from mail processing to back-office functions. IT will also provide the tools and support necessary in order to provide enhanced products and services to customers.

The Postal Service will support its employees' efforts with a modernized and streamlined information technology infrastructure. By replacing older equipment and implementing new applications and processes, the organization is bringing its systems to desired levels. Not only will the systems provide the Postal Service with the ability to streamline internal operations, they will also give the organization the opportunity to increase the number and types of services made available to our customers.

Providing Postal Service customers with the services they want and need in the most convenient, cost-effective manner possible is the motivation for these technology initiatives. By continuing our leadership role in technology, the Postal Service will be strong enough to respond quickly to the ever-evolving market and the subsequent demands of the American public. These technology initiatives enable the Postal Service to fulfill its historic mission to “bind the nation together” and to remain relevant well into the future.